We claim:

1. A method for delivering an agent to cells at a site where uptake is desired comprising

(a) administering to the cells at the site where uptake is desired a composition that includes a viscous material and the agent to be delivered,

wherein the composition has an apparent viscosity between 10 and 2000 Poise and has approximately the same apparent viscosity, at a shear stress of between approximately 1 and 200 Pascal at a strain rate approximately that of endocytosis, as the cytosolic fluid of the cell to which the agent is to be delivered, and

(b) administering an enhancer in an amount effective to enhance expression of or binding to receptors eliciting receptor-mediated endocytosis on the cells at the site where uptake is desired, wherein the enhancer and the agent to be delivered are the same or different compounds.

2. The method of claim 1 wherein the compound to be delivered is the enhancer.

3. The method of claim 1 wherein the cells to which the agent is to be delivered are in the nose, rectum, mouth, ear, eye, or lungs.

4. The method of claim 1 wherein the enhancer is administered topically.

5. The method of claim 1 wherein the enhancer is administered.

6. The method of claim 1 wherein the composition is administered to the vaginal mucosa.

7. The method of claim 1 wherein the agent is selected from the group consisting of proteins, peptides, carbohydrates, nucleic acid molecules, and chemotherapeutic agents.

8. The method of claim 7 wherein the enhancer is selected from the group consisting of hormones, glucocorticoids, and other molecules specifically binding to a receptor on a cell surface to induce endocytosis.

9. The method of claim 8 wherein the agent is a reproductive hormone.

10. The method of claim 1 wherein the enhancer is a glucocorticoid.

11. The method of claim 9 wherein the steroid is selected from the group consisting of progesterone, estradiol, and combinations thereof.

12. The method of claim 1 wherein the viscous material is selected from the group consisting of hydrogels, lipogels and sols.

13. The method of claim 12 wherein the hydrogel is selected from the group consisting of celluloses, polyalkyleneoxide, polyvinylpyrrolidone, dextrans, alginates, agaroses, gelatin, hyaluronic acid, trehalose, polyvinyl alcohol, and copolymers and blends thereof.

19. A composition for delivering an agent to cells at a site where uptake is desired comprising:

a viscous fluid,

the agent to be delivered, and

an enhancer in an amount effective to enhance expression of or binding to receptors on the cells eliciting receptor-mediated endocytosis, thereby to enhance receptor mediated endocytosis of the agent into the cells,

wherein the composition has an apparent viscosity between 10 and 2000 Poise and has approximately the same apparent viscosity, at a shear stress of between approximately 1 and 200 Pascal at a strain rate approximately that of endocytosis, as the cytosolic fluid of the cell to which the agent is to be delivered.

20. The composition of claim 19 in a formulation suitable for administration to mucosa of tissue selected from group consisting of the nose, the rectum, the mouth, the ear, the eye, and the lungs.

21. The composition of claim 19 wherein the agent is selected from the group consisting of proteins, peptides, carbohydrates, nucleic acid molecules, and chemotherapeutic agents.

22. The composition of claim 21 wherein the enhancer is selected from the group consisting of hormones and glucocorticoids.

23. The composition of claim 19 wherein the hormone is a reproductive

hormone.

24. The composition of claim 19 wherein the viscous material is selected from the group consisting of hydrogels, lipogels and sols.

25. The composition of claim 24 wherein the hydrogel is selected from the group consisting of celluloses, polyalkyleneoxide, polyvinylpyrrolidone, dextrans, alginates, agaroses, gelatin, hyaluronic acid, trehalose, polyvinyl alcohol, and copolymers and blends thereof.

26. A kit for delivering an agent to cells comprising:

a first composition comprising a viscous fluid and the agent to be delivered, wherein the composition has an apparent viscosity between 10 and 2000 Poise and has approximately the same apparent viscosity, at a shear stress of between approximately 1 and 200 Pascal at a strain rate approximately that of endocytosis, as the cytosolic fluid of the cell to which the agent is to be delivered, and

a second composition comprising an enhancer in an amount effective to enhance expression of receptors eliciting receptor-mediated endocytosis on the cells, thereby to enhance receptor mediated endocytosis of the agent into the cells.

27. The kit of claim 26 wherein the second composition is in a formulation suitable for topical or systemic administration.